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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/687,172	10/16/2003	Thuji S. Lin	2875.016000E	6639
26111 7590 01/24/2007 STERNE, KESSLER, GOLDSTEIN & FOX PLLC 1100 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER AHN, SAM K	
			ART UNIT 2611	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		NOTIFICATION DATE	DELIVERY MODE	
3 MONTHS		01/24/2007	ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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fadkt@skgf.com

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## Office Action Summary

Application No.

10/687,172

Applicant(s)

LIN ET AL.

Examiner

Sam K. Ahn

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-5 is/are rejected.
- 7) ☒ Claim(s) 1 and 2 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>101603</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
2. The abstract of the disclosure is objected to because it exceeds 150 words.  
Correction is required. See MPEP § 608.01(b).

### ***Claim Objections***

3. Claims 1-5 are objected to because of the following informalities:  
  
In claim 1, line 1, define "VSB", line 3, "signal" should be "VSB signal", line 13, define "VCO".  
  
In claim 2, line 1, "in which" should be "wherein", line 2, "before comparison" should be "before said combining".  
  
In claim 3, "additionally comprising" should be "further comprising".  
  
In claim 4, "additionally comprising" should be "further comprising".  
  
In claim 5, line 1, "in which" should be "wherein", line 3, "the the symbol" should be "the symbol", line 4, "before comparison" should be "before said combining".  
  
Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

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4. Claims 3-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites "*equalizing the third data stream and combining the equalized third data stream ... prior to generating the third data stream*".

The "third data stream" must be generated before equalizing in order to generate the "equalized third data stream". However, the claim recites that the step of "combining the equalized third data stream" is executed prior to generating the "third data stream". The combining step involves the "equalized third data stream", hence the "third data stream" must be generated first in order to produce the "equalized third data stream".

How can the combining step be executed "prior to generating the third data stream" when the "equalized third data stream" cannot be generated without generating the "third data stream" beforehand? Therefore, the claimed limitation is unclear and indefinite for failing to particularly point out and distinctly claim the subject matter.

Claim 4 is rejected as applied to claim 3 with similar limitation, wherein claim 5 directly depends on claim 4.

#### ***Allowable Subject Matter***

5. Claims 1 and 2 would be allowable if rewritten or amended to overcome the claim objections, set forth in this Office action.

6. Claims 3-5 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, and the claim objections, set forth in this Office action.
7. The following is a statement of reasons for the indication of allowable subject matter: present application discloses a receiver receiving VSB signal and determining phase corrections on the received signal. Prior art teaches or suggests the limitations, however, do not explicitly teach the combined limitations of comparing a first input signal with a sliced signal to generate a symbol error, wherein the sliced signal is derived from the first signal, the first and a second input signal forming a Hilbert transform pair, and multiplying or combining the symbol error with the second input signal to generate a phase error.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Endres et al. US 6,426,972 B1 teach VSB receiver receiving an input signal and generating a sliced signal to generate a phase error.

Lee US 6,046,618 teaches a phase correction circuit receiving a VSB signal and detecting decision error having a phase error.

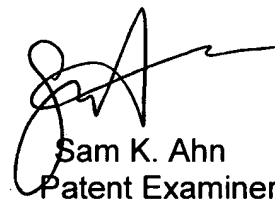
Patel et al. US 5,999,223 teach a digital TV receiver compatible to receiver QAM and VSB signal with an adaptive equalizer and correcting frequency and phase errors.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sam K. Ahn  
Patent Examiner

1/20/07